

WHAT IS CLAIMED IS:

1. A thermal fixing device comprising:

a heating member configured to be in contact with a fixation medium;

5 a first pressing member disposed to face the heating member and applies a force directed toward both sides of the fixation medium in a direction orthogonal to a conveyance direction of the fixation medium by pressing the fixation medium to the heating member; and

10 a second pressing member disposed to face the heating member at a position downstream in the conveyance direction with respect to the first pressing member and applies a force, which is larger than the force of the first pressing member, directed toward both sides of the fixation medium in a direction orthogonal to the conveyance direction.

2. The thermal fixing device according to claim 1, wherein the first pressing member comprises a first pressing roller and the second pressing member comprises a second pressing roller,

wherein both of the first and the second pressing rollers have a second outer diameter at both end parts thereof, in the direction orthogonal to the conveyance direction, of an area where the fixation medium having a maximum size in which to be in contact with the first and the second pressing rollers, is larger than a first outer diameter at a center part thereof, and

25 wherein both of the first and the second pressing rollers

have outer diameters that are gradually enlarged from the center part to the both of the end parts.

3. The thermal fixing device according to claim 2, wherein a difference between the first outer diameter and the second outer diameter of the second pressing roller is larger than a difference between the first outer diameter and the second outer diameter of the first pressing roller.

4. The thermal fixing device according to claim 2 further comprising a driving unit that rotates the second pressing roller.

5. The thermal fixing device according to claim 4, wherein the first pressing roller is configured to be rotated by the rotation of the second pressing roller.

6. The thermal fixing device according to claim 4, wherein the driving unit rotates the second pressing roller so that a peripheral speed at the center part of the center part of the second pressing roller in the direction orthogonal to the conveyance direction of the fixation medium is faster than a peripheral speed at the center part of the first pressing roller in the direction orthogonal to the conveyance direction of the fixation medium.

7. The thermal fixing device according to claim 1, wherein the heating member comprises a heating roller,

wherein the heating roller has a second outer diameter at both end parts thereof, in the direction orthogonal to the

conveyance direction, of an area where the fixation medium having a maximum size in which to be in contact with the heating roller, is larger than a first outer diameter at a center part thereof, and

5        wherein the heating roller has an outer diameter that is gradually enlarged from the center part to the both of the end parts.

8.        The thermal fixing device according to claim 1, wherein a friction force of the second pressing member is larger than  
10 a friction force of the first pressing member.

9.        The thermal fixing device according to claim 1, wherein a pressing force per unit area of the second pressing member is larger than a pressing force per unit area of the first pressing member.

15 10.      A thermal fixing device comprising:

        a heating member configured to be in contact with a fixation medium;

        a first pressing roller disposed to face the heating member and presses the fixation medium to the heating member, the first  
20 pressing roller having a second outer diameter at both end parts thereof, in a direction orthogonal to the conveyance direction, of an area where the fixation medium having a maximum size in which to be in contact with the first pressing roller, the second outer diameter being larger than a first outer diameter at a  
25 center part thereof; and

a second pressing roller disposed to face the heating member at a position downstream in the conveyance direction with respect to the first pressing roller and presses the fixation medium to the heating member, the second pressing roller having  
5 a second outer diameter at both end parts thereof, in the direction orthogonal to the conveyance direction, of an area where the fixation medium having a maximum size in which to be in contact with the second pressing roller, the second outer diameter being larger than a first outer diameter at a center  
10 part thereof, and

wherein a difference between the first outer diameter and the second outer diameter of the second pressing roller is larger than a difference between the first outer diameter and the second outer diameter of the first pressing roller.

15 11. The thermal fixing device according to claim 10 further comprising a driving unit that rotates the second pressing roller.

12. The thermal fixing device according to claim 11, wherein the first pressing roller is configured to be rotated by the  
20 rotation of the second pressing roller.

13. The thermal fixing device according to claim 11, wherein the driving unit rotates the second pressing roller so that a peripheral speed at the center part of the center part of the second pressing roller in the direction orthogonal to the  
25 conveyance direction of the fixation medium is faster than a

peripheral speed at the center part of the first pressing roller  
I the direction orthogonal to the conveyance direction of the  
fixation medium.

14. The thermal fixing device according to claim 10, wherein  
5 the heating member comprises a heating roller,

wherein the heating roller has a second outer diameter at  
both end parts thereof, in the direction orthogonal to the  
conveyance direction, of an area where the fixation medium having  
a maximum size in which to be in contact with the heating roller,  
10 is larger than a first outer diameter at a center part thereof,  
and

wherein the heating roller has an outer diameter that is  
gradually enlarged from the center part to the both of the end  
parts.

15 15. The thermal fixing device according to claim 10, wherein  
a friction force of the second pressing roller is larger than  
a friction force of the first pressing roller.

16. The thermal fixing device according to claim 10, wherein  
a pressing force per unit area of the second pressing roller is  
20 larger than a pressing force per unit area of the first pressing  
roller.

17. An image forming apparatus comprising:

a sheet feeding section configured to feed a sheet as a  
fixation medium; and

25 an image forming section having a thermal fixing device

and configured to form an image on the sheet fed by the sheet feeding section,

wherein the thermal fixing device comprises:

a heating member configured to be in contact with the  
5 fixation medium;

a first pressing member disposed to face the heating member and applies a force directed toward both sides of the fixation medium in a direction orthogonal to a conveyance direction of the fixation medium by pressing the fixation medium to the heating  
10 member; and

a second pressing member disposed to face the heating member at a position downstream in the conveyance direction with respect to the first pressing member and applies a force, which is larger than the force of the first pressing member, directed  
15 toward both sides of the fixation medium in a direction orthogonal to the conveyance direction.

18. An image forming apparatus comprising:

a sheet feeding section configured to feed a sheet as a fixation medium; and

20 an image forming section having a thermal fixing device and configured to form an image on the sheet fed by the sheet feeding section,

wherein the thermal fixing device comprises:

a heating member configured to be in contact with a fixation  
25 medium;

a first pressing roller disposed to face the heating member and presses the fixation medium to the heating member, the first pressing roller having a second outer diameter at both end parts thereof, in a direction orthogonal to the conveyance direction, of an area where the fixation medium having a maximum size in which to be in contact with the first pressing roller, the second outer diameter being larger than a first outer diameter at a center part thereof; and

a second pressing roller disposed to face the heating member at a position downstream in the conveyance direction with respect to the first pressing roller and presses the fixation medium to the heating member, the second pressing roller having a second outer diameter at both end parts thereof, in the direction orthogonal to the conveyance direction, of an area where the fixation medium having a maximum size in which to be in contact with the second pressing roller, the second outer diameter being larger than a first outer diameter at a center part thereof, and

wherein a difference between the first outer diameter and the second outer diameter of the second pressing roller is larger than a difference between the first outer diameter and the second outer diameter of the first pressing roller.